

Commerce General Architecture

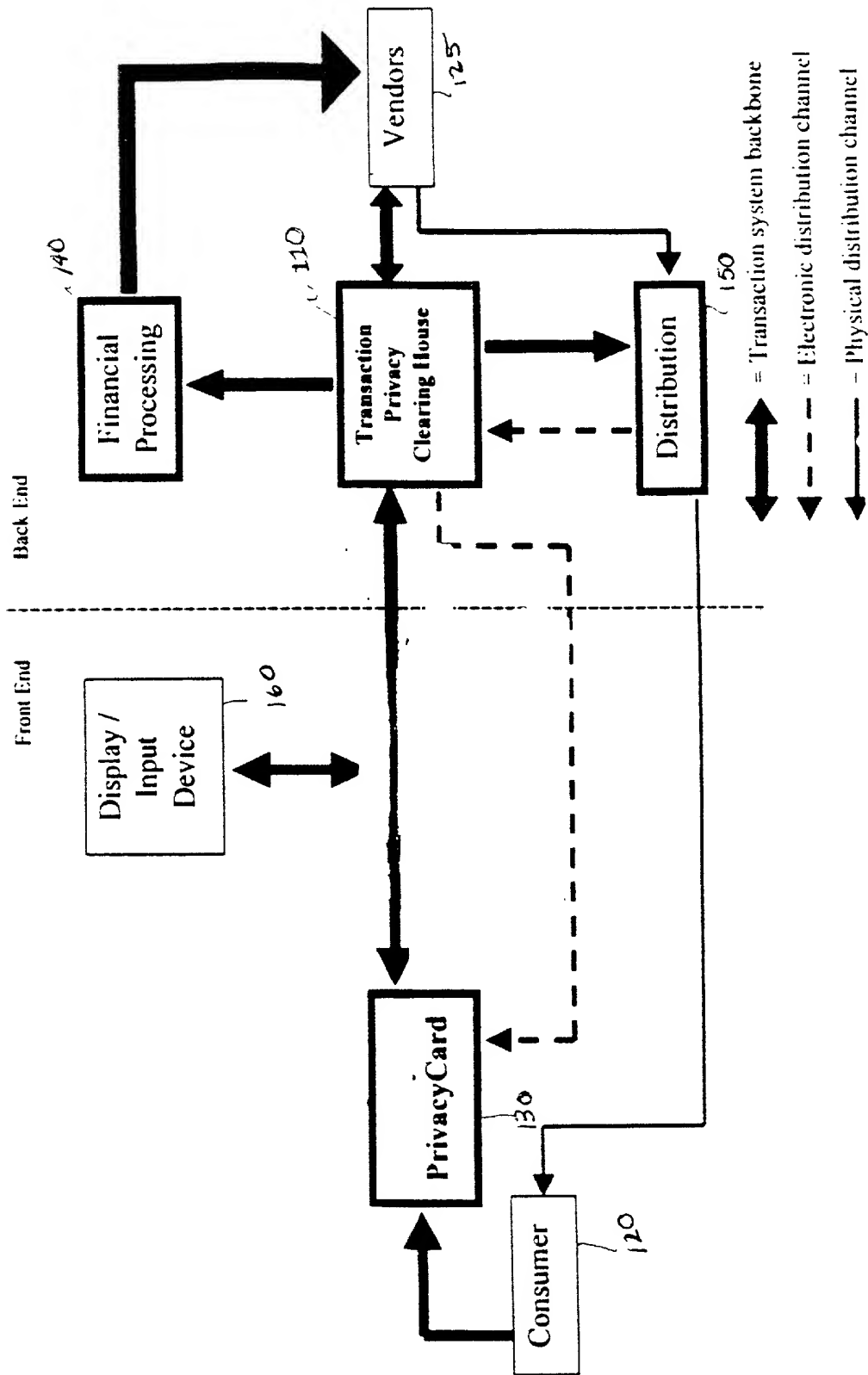


Fig 1

Commerce General Architecture - POS Terminal:

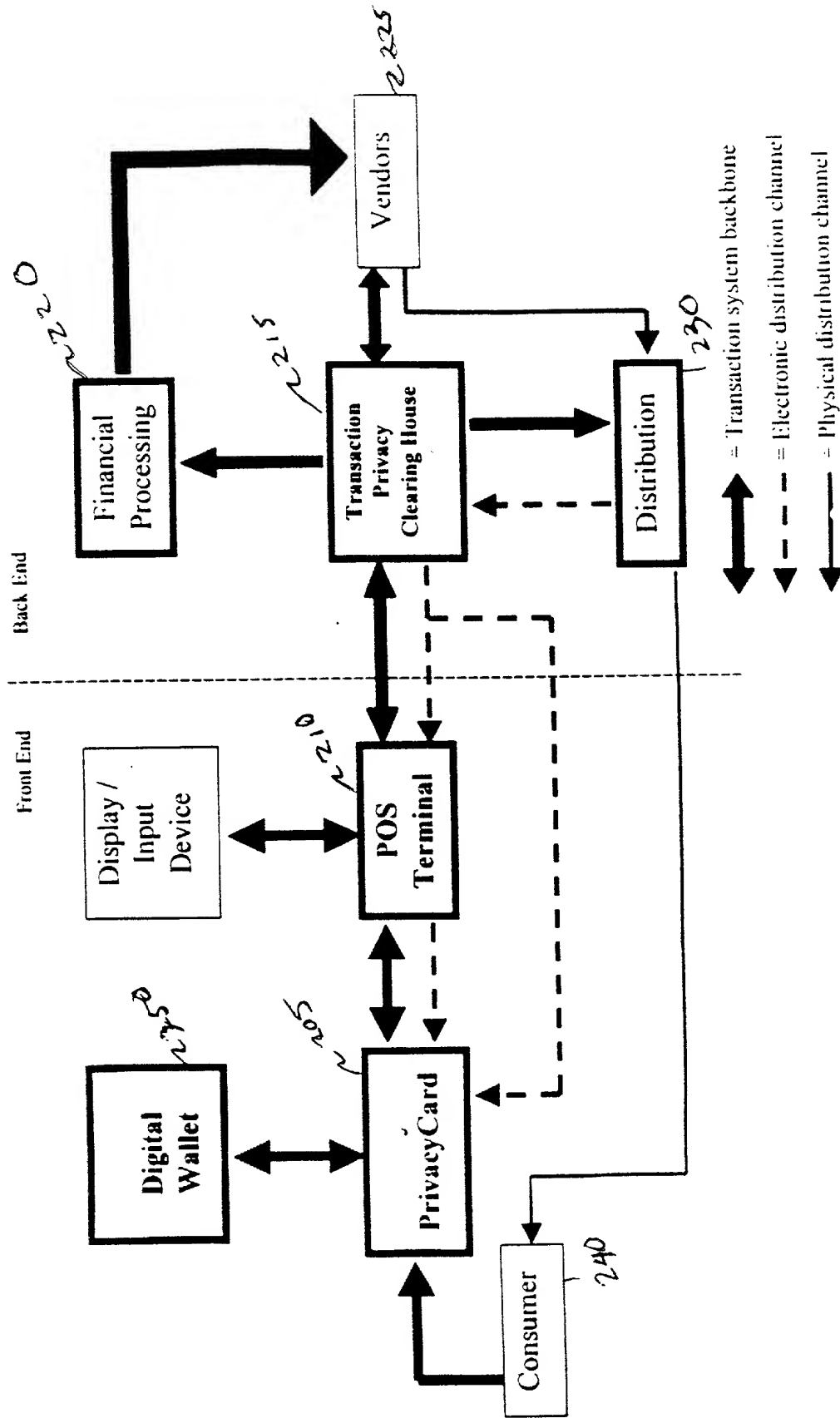


Fig 2

Commerce In-Home Environment

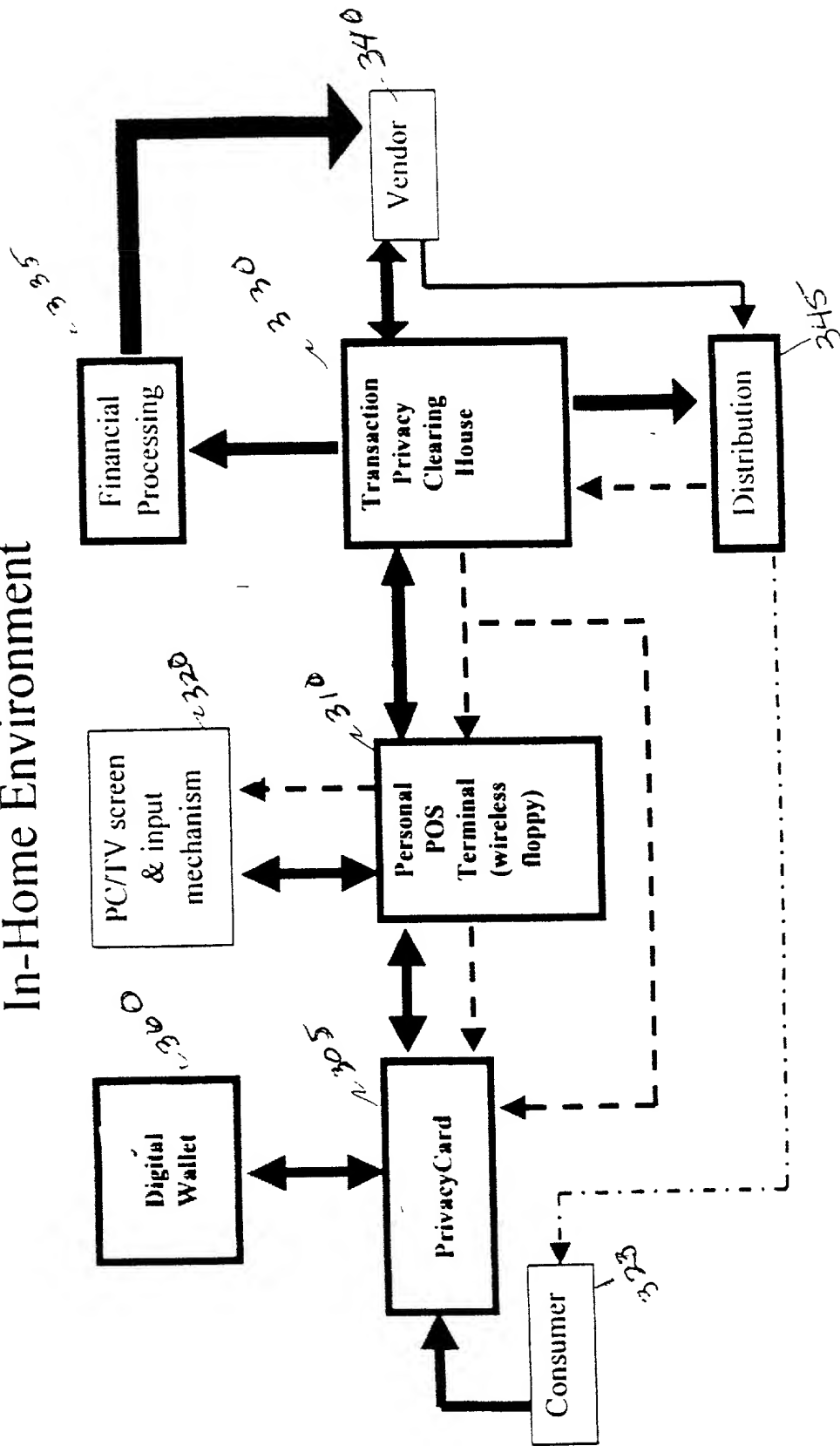


Fig 3

In-Store Retail Environment

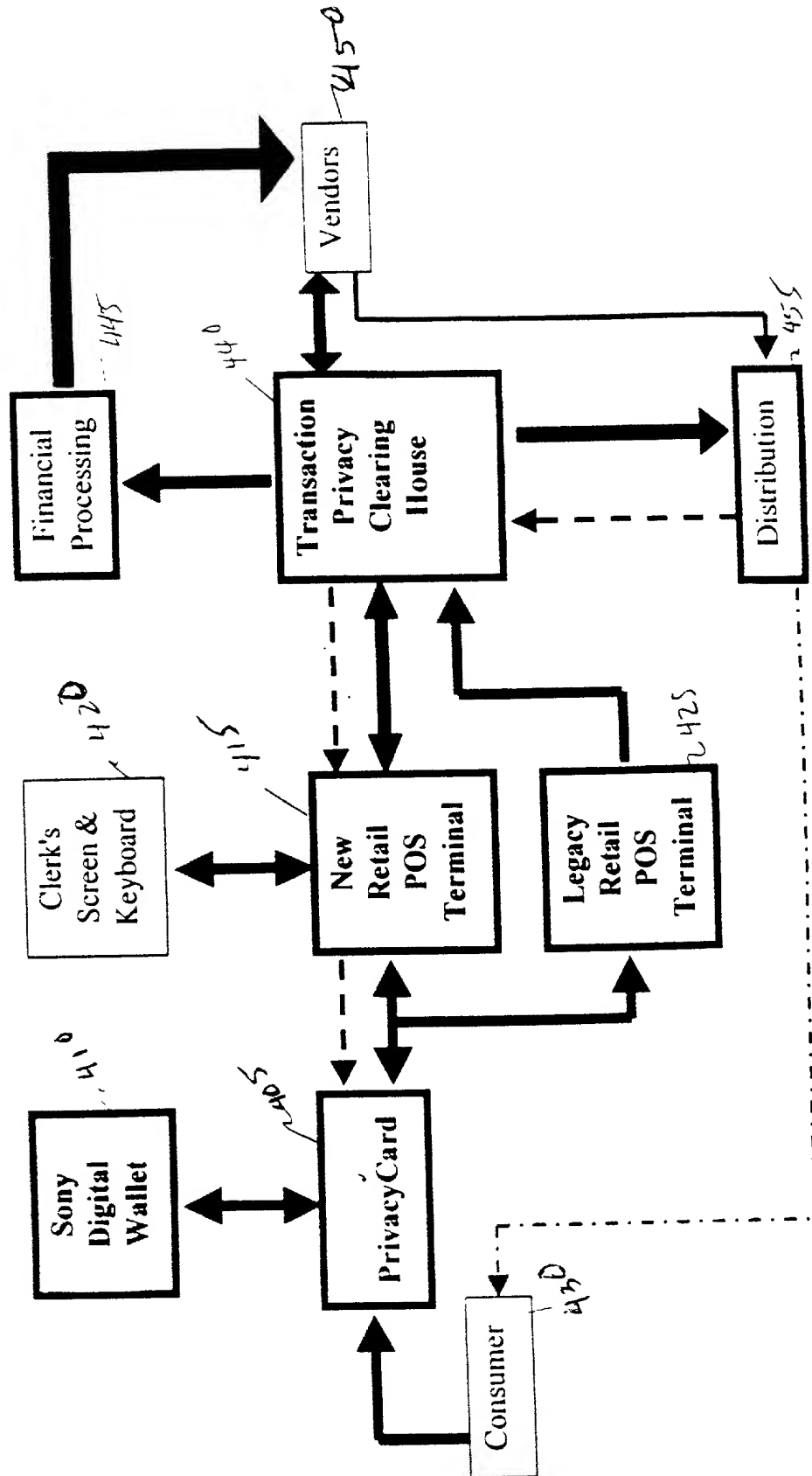
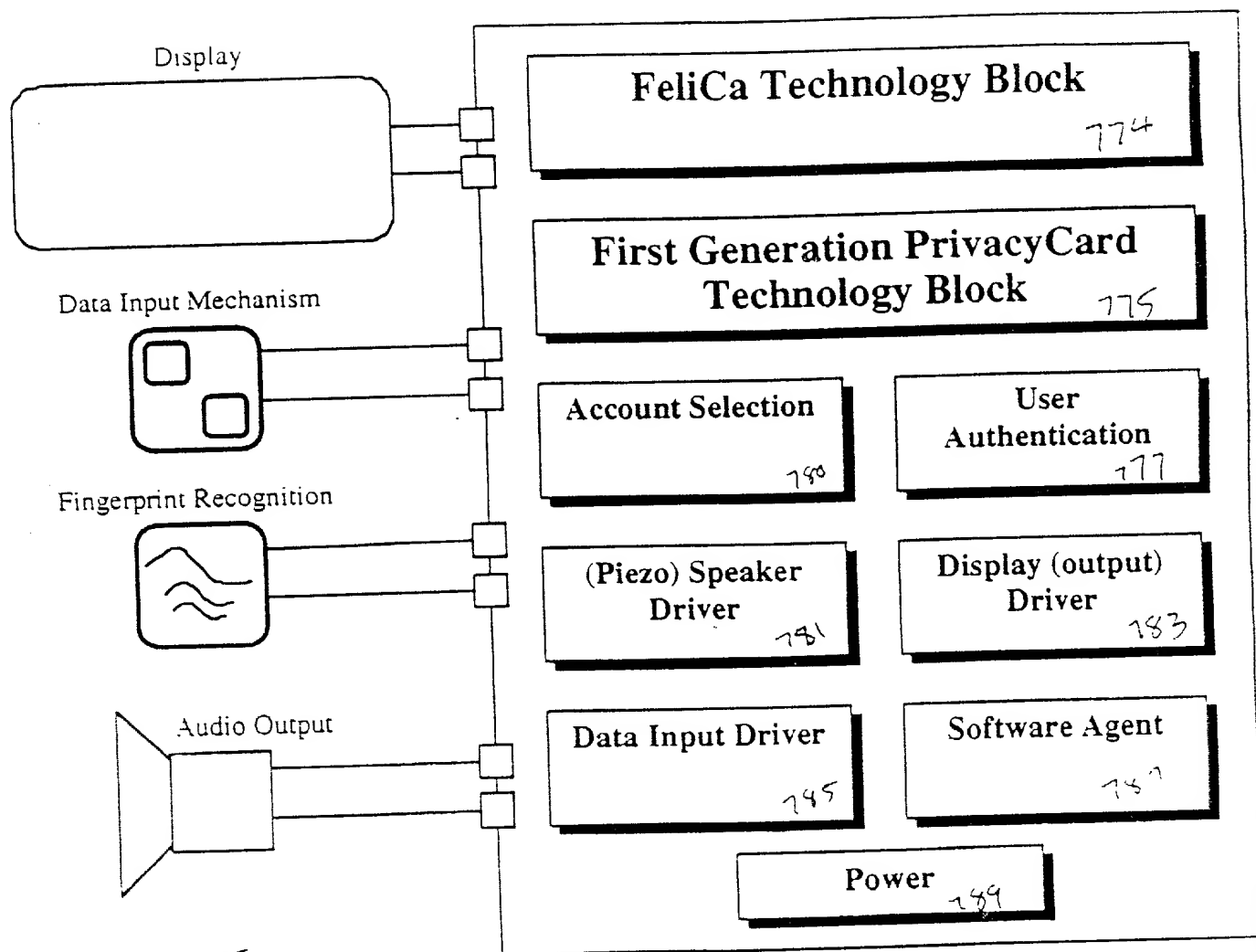


Fig 4

The diagram illustrates a transaction processing system architecture. It features three 'Retail POS terminal' boxes on the left, connected by a vertical line to a central 'Retail Back-End System' box. The 'Retail Back-End System' box is connected by a vertical line to a 'Transaction Privacy Clearing House' box below it. The 'Transaction Privacy Clearing House' box is connected by a dashed line to a 'Settlement (VISA, etc.)' box on the right. Handwritten annotations include '550' next to the first Retail POS terminal, '555' next to the Retail Back-End System, '510' next to the Transaction Privacy Clearing House, and '560' next to the Settlement box.

Diagram 3: An alternative embodiment of the retail system modified to support the interaction of legacy POS terminals with the Digital Wallet system

25



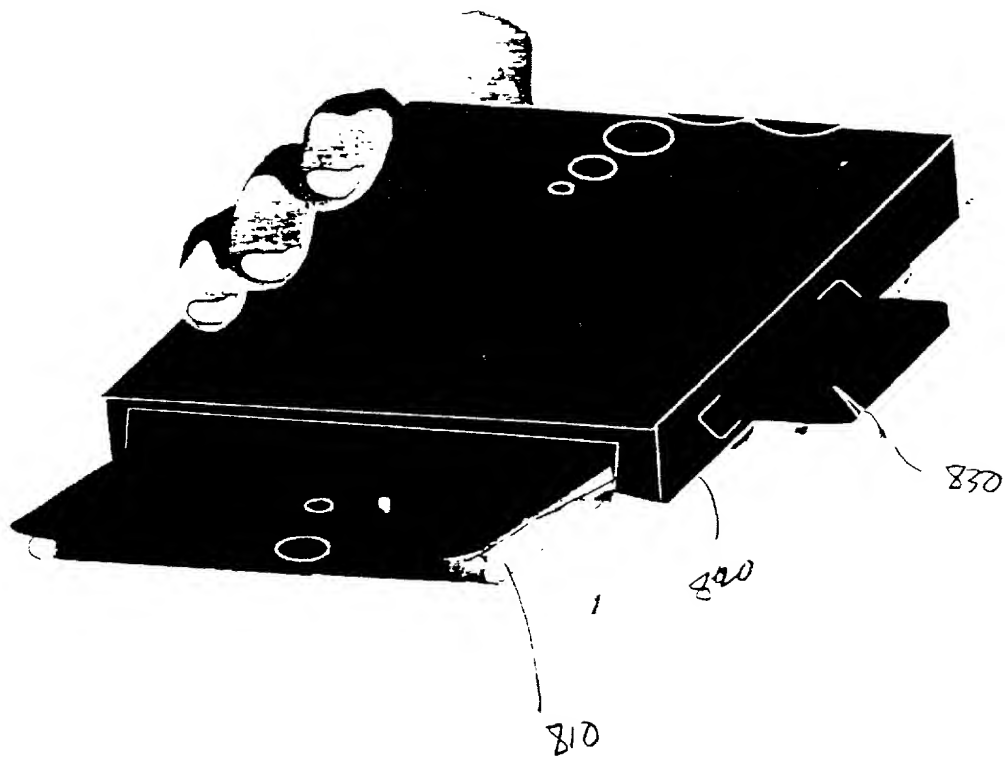


Fig 8

Digital Wallet and
Privacy Card

09/3546 120700

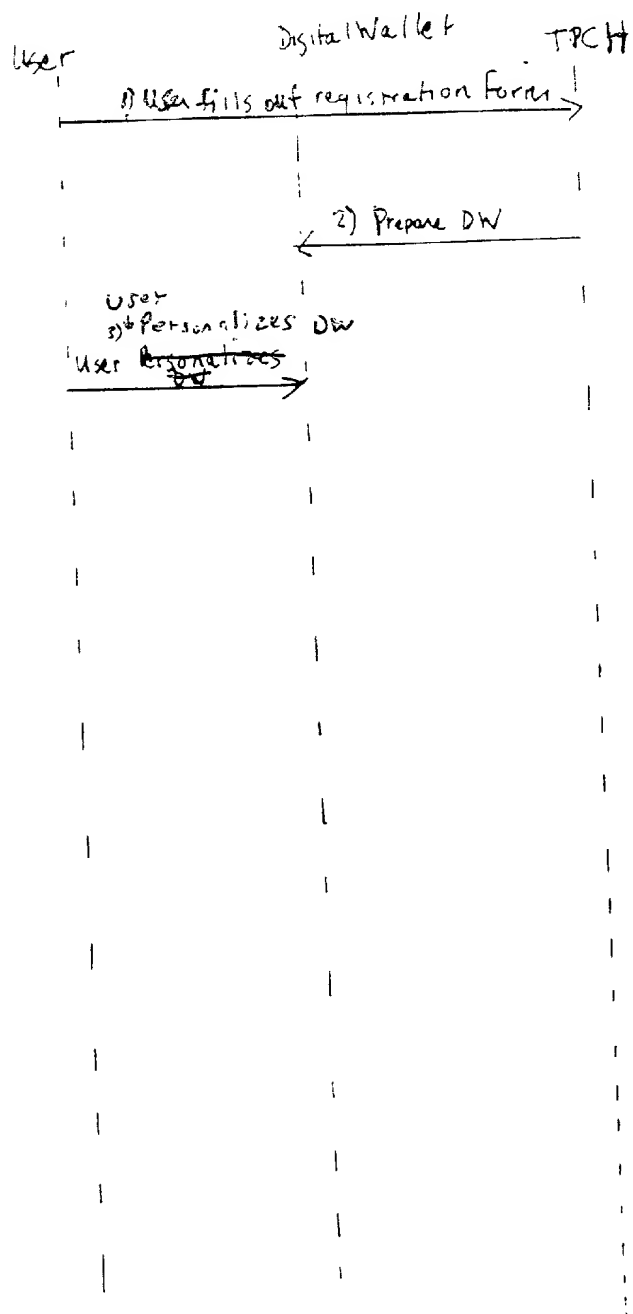


Fig 10

Setup of Digital wallet

```

sequenceDiagram
    participant User
    participant DW as Digital Wallet
    participant Laptop as Laptop PC
    participant TPCH

    User->>Laptop: 1) submit electronic registration, provide fingerprint
    Laptop->>TPCH: 1102) encrypt & deliver fingerprint sample + registration
    TPCH->>DW: 1103) initialize DW device, deliver to user
    DW->>User: 1104) activate & verify delivery, user
    User->>TPCH: 1105) confirm successful delivery, user
    TPCH->>DW: 1106) enabled for use
    DW->>User: 1107) display ready message
    
```

Digital Wallet Setup .
(Alternate Embedment)

00733516 120700

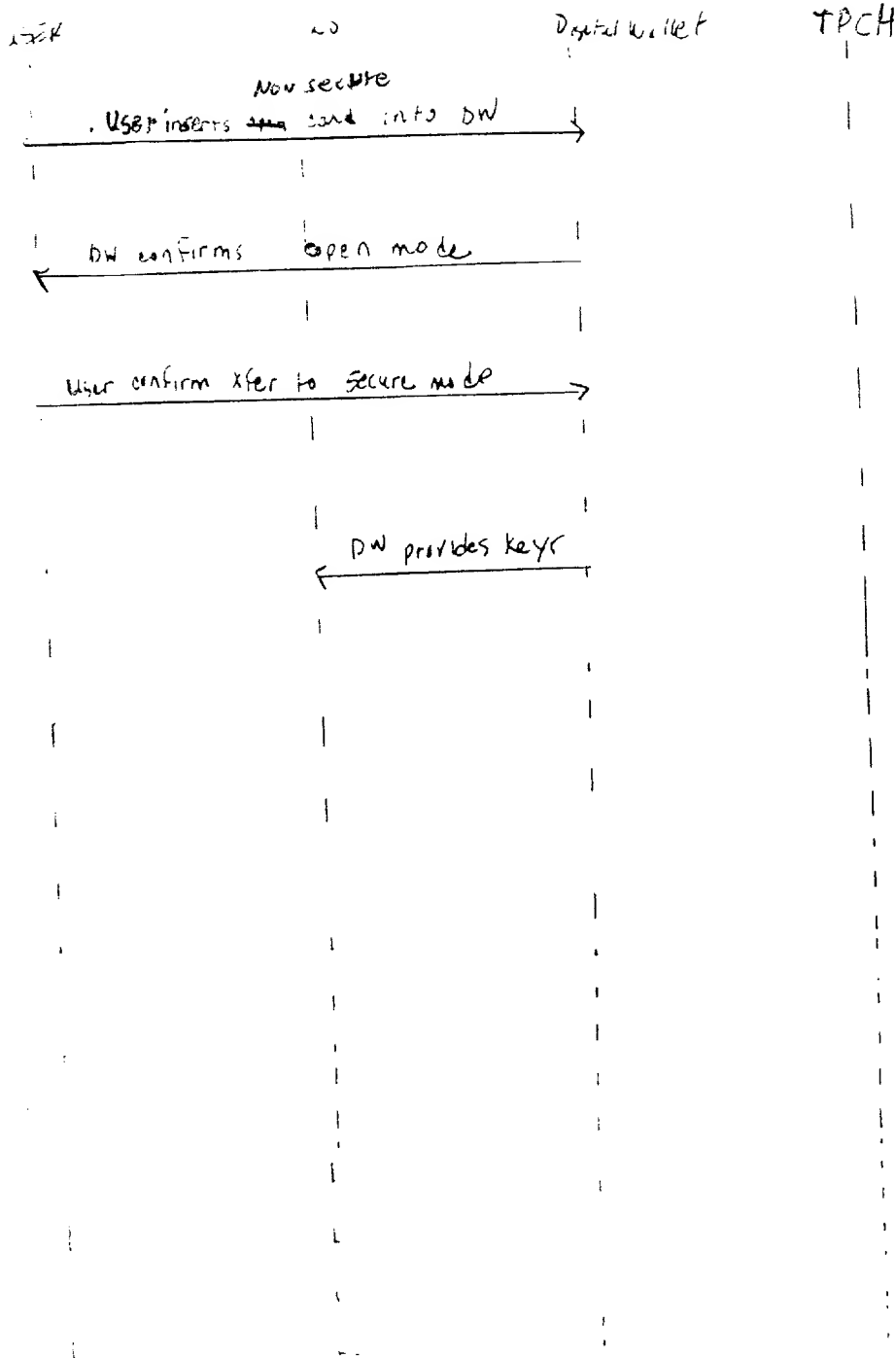
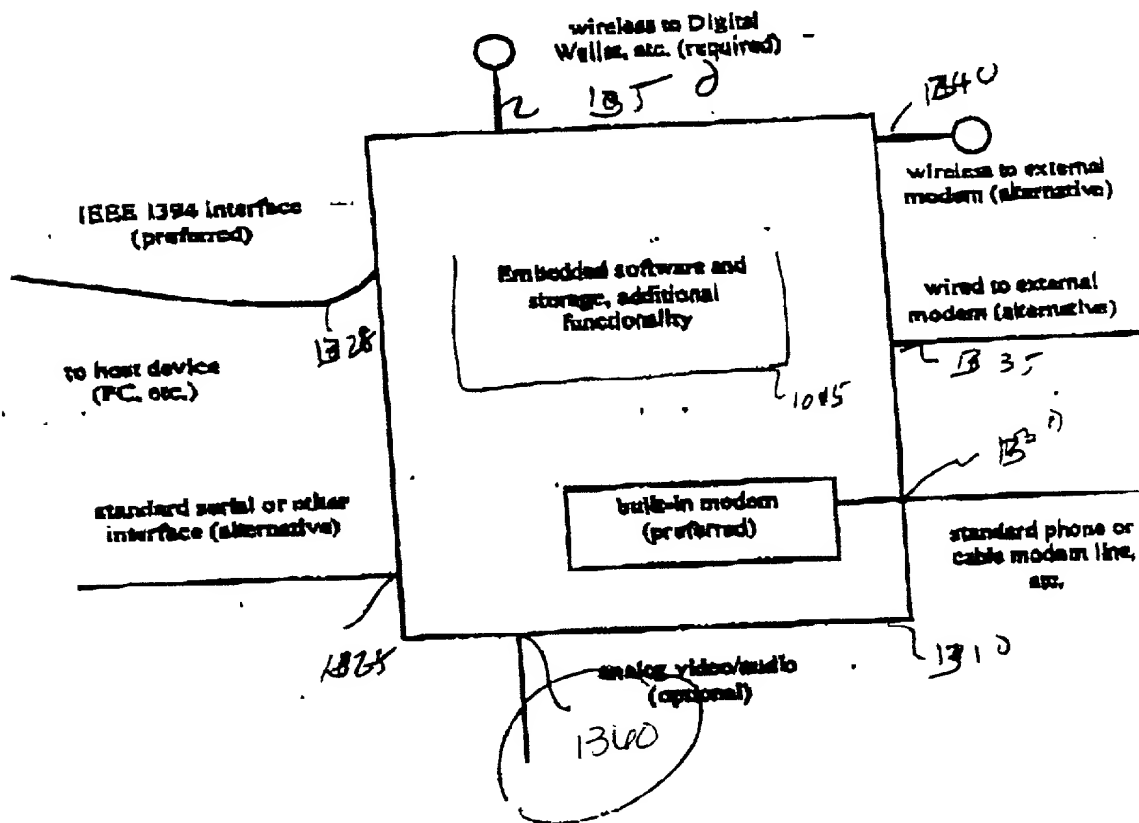


Fig 1A

conversion of card to secure

00733515 120700



POS Terminal

Fig. 13

Fig 14

START



Initiate Transaction 1505



Info
Privacy Card Provided
to TPCIT 1510



TPCIT confirms transaction
and sends confirmation
to vendor and user 1520



Vendor completes
transaction 1525



End

Fig. 15

09733516 120700


```

sequenceDiagram
    participant User
    participant DigitalWallet as Digital Wallet
    participant TPC
    participant Vendor
    participant Distributor
    participant Package

    User->>Package: 1901) repackage material
    User->>DigitalWallet: 1902) activate, select Return Package
    DigitalWallet->>Package: 1903) apply coded label with package_ID, vendor_address
    DigitalWallet->>Vendor: 1904) contact vendor, distributor for return
    DigitalWallet->>Distributor: 
    Distributor->>Package: 1905) pick up, decode label for package_ID, vendor_address
    Distributor->>Vendor: 1906) deliver to vendor
    
```

Return of Product

```

sequenceDiagram
    participant User
    participant DW as Digital Wallet
    participant DTV
    participant TPCH
    participant Vendor
    participant POS as POS Terminal

    User->>DW: 2001) activate, select Purchase
    DW->>POS: 2002) request product info
    POS-->>DW: 2003) return product information
    DW->>TPCH: 2004) issue transaction request, provide data & DW ID
    TPCH->>Vendor: 2005) transaction data & DW ID
    Vendor-->>TPCH: 2006) data mining, direct marketing
    TPCH-->>DW: 2007) full message or content reference
    DW->>User: 2008) notify user
    User->>DW: 2009) view content, respond as needed
    DW->>DTV: 
    DW->>Vendor: 
  
```

Data Mining

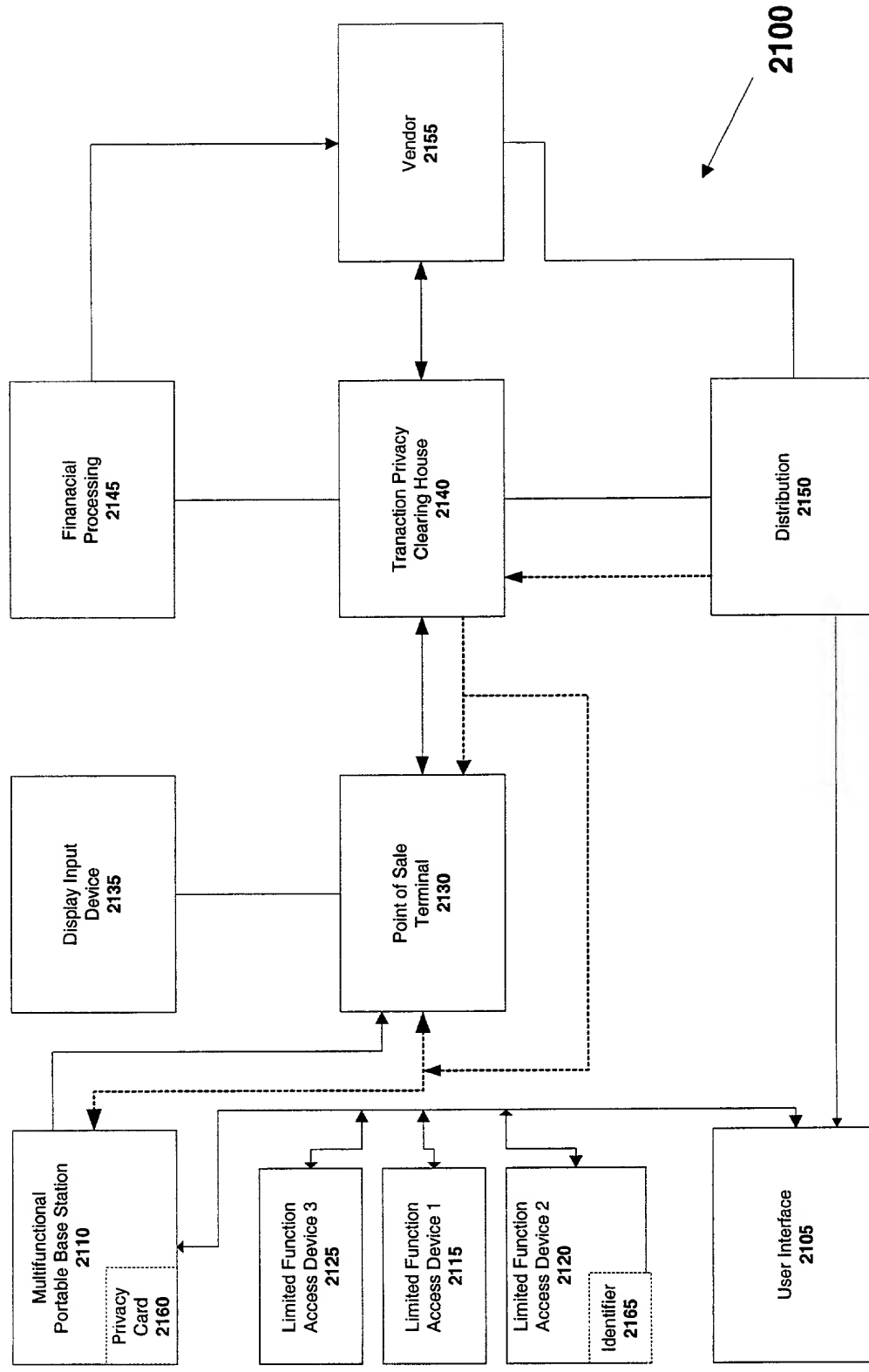


Figure 21

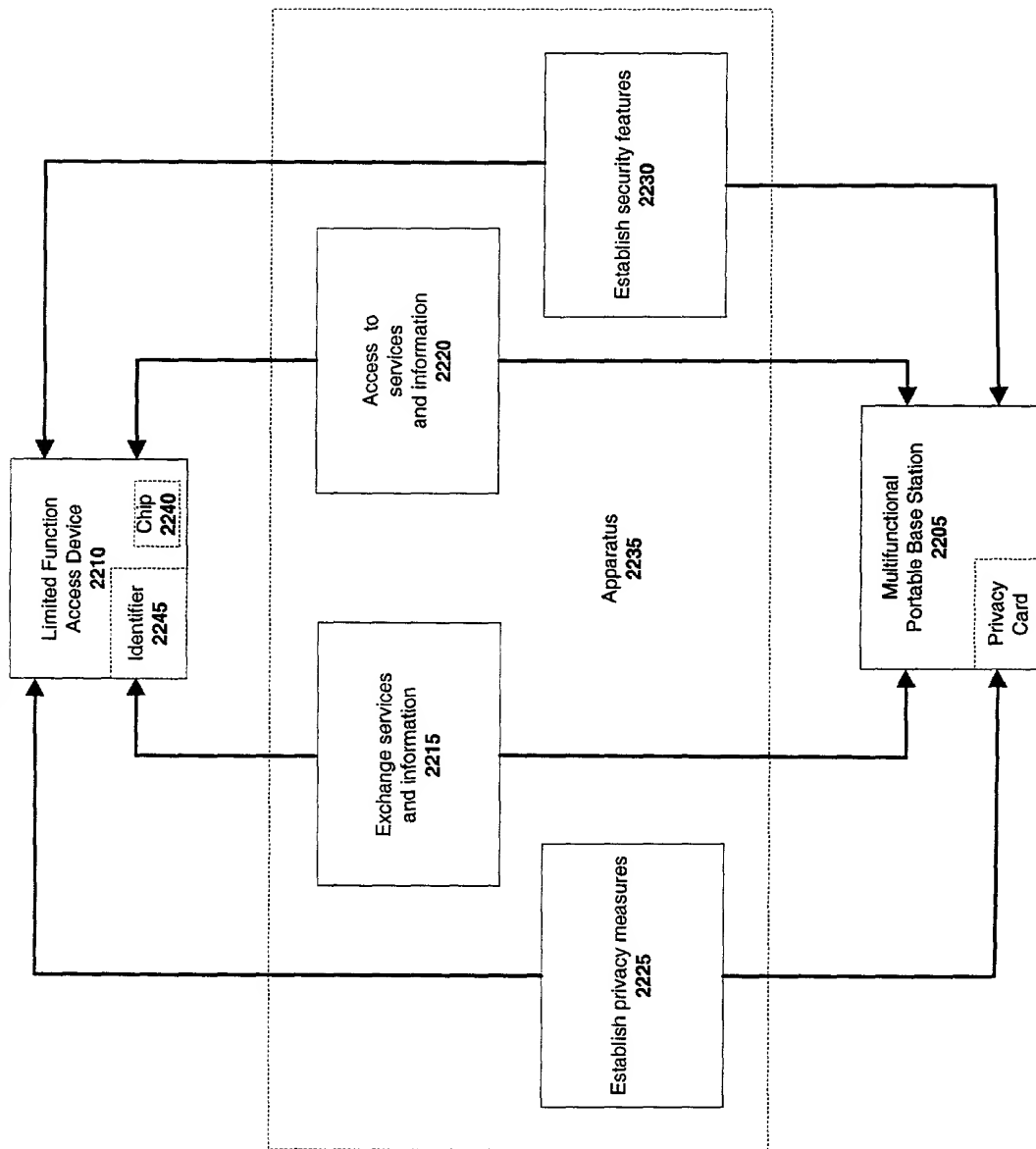


Figure 22